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EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/400,151

Applicant(s)

SHENNIB, ADNAN

Examiner

Lun-See Lao

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 September 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-109 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-109 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

## **DETAILED ACTION**

### *Introduction*

1. Claims 1-109 of U.S. application 09/400,151 filed on 09/21/1999 are presented for examination.

### ***Claim Rejections - 35 USC § 112***

2. Claims 1-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The functional "whereby" statement in claim 1 was held not to define any structure and accordingly could not serve to distinguish.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5, 7-9, 14, 20-2, 31-32, 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Brillhart (US PAT. 5,303,306).

Regarding claim 1 Brillhart teaches that a device for performing sound field hearing testing, said device comprising:

a) an audio transducer (see fig.3, 106) for producing acoustic test stimuli to a test subject within the direct sound field range of said audio transducer, and

b) a contactless position sensor (see fig.2, 14) system for measuring (see fig.1, 15) the position of said device with respect to the head or part thereof of interest of said test subject (patient),

whereby hearing evaluation of said test subject, when properly positioned relative to said device, may be performed by said device based on said acoustic test stimuli (see abstract).

Regarding claims 2-3, Brillhart teaches that the device of including means for automatically determining or adjusting characteristics of said acoustic test stimuli, including onset, amplitude and frequency characteristics, in response to position measurements performed by said position sensor system (see col.4 line 15-col.5 line 20) and device is constructed and adapted to be hand held by said test subject (see fig.1, 20).

Regarding claim 5, 7-9, Brillhart teaches that the device is configured for operation by a test operator (audiologist) assisting said test subject (patient) and the device of including means for performing said hearing evaluation in an aided condition in which said test subject is wearing a hearing aid (see fig.1, 10); and including means for performing said hearing evaluation in said aided condition to verify functionality of said hearing aid worn by said test subject and including means for performing said hearing evaluation in said aided condition to adjust at least one parameter of said hearing aid (see col.4 line 25-col.5 line 20).

Regarding claim 14, Brillhart teaches that the device, wherein said contactless position sensor system comprises at least one of an optical traducer, acoustic transducer and ultrasonic transducer (see fig.2, 15 and fig.3, 110).

Regarding 20-22, Brillhart teaches that the device of further comprising means to select from at least two types of acoustic test stimuli including speech, noise and tone types (see col.4 line 25-col.5 line 22); and to select acoustic test stimuli in at least two frequency ranges and comprising at least one switch for selection of at least one acoustic test stimulus.

Regarding claims 31-32, 35, Brillhart teaches that the device of further comprising a controller (see fig.1, 20); and comprising memory for storage of data representative of acoustic test stimuli (see fig.2, (55,52,56)); and the device of further comprising a controlling or adjusting one parameter of said hearing aid worn by said teat subject (see col.4 line 25-col.5 line 21).

5. Claims 37-39, 41-43,48,50, 53-65,68, are rejected under 35 U.S.C. 102(b) as being anticipated by Shennib (US PAT. 5,197,332).

Regarding claim 37, Shennib teaches that a hand held device for performing sound field hearing evaluation in a contactless manner with respect to a test ear of a test subject, said device comprising:

a) an audio transducer (see fig.2, 14) for delivering acoustic test stimuli to said test subject holding said device (18a) within the direct sound field range of said audio transducer (14),

b) means for selecting delivery of said acoustic test stimuli through said audio transducer at two or more intensity levels for performing one or more supra-threshold (see fig.4, 114) hearing measurements (see col.9 line 40-col.10 line 55), and

c) means for selecting delivery of said acoustic test stimuli through said audio transducer in at least two frequency ranges for performing hearing evaluation in at least two frequency ranges (see col.10 line 55-col.11 line 20).

Regarding claims 38-39, Shennib teaches that the hand held device of is configured for operation by said test subject and device is configured for operation by a test operator assisting said test subject (see col.4 lines 45-55).

Regarding claims 41-43, Shennib teaches that the hand held device of including means for performing said hearing evaluation in an aided condition in which said test subject is wearing a hearing aid (see fig.1); and the device of including means for performing said hearing evaluation in said aided condition to verify functionality of said hearing aid worn by said test subject (see col.5 line 17- col.6 line 10); and the hand held device of including means for performing said hearing evaluation in said aided condition to adjust at least one parameter of said hearing aid (see col.10 line 2-col.11 line 20).

Regarding claims 48, 50, Shenib teaches that The hand held device of further comprising a contactless position sensor system (see fig.2, 28a, 28b) for measuring the position of said device with respect to the head or part thereof of interest of said test subject; and the hand held device wherein said contactless position sensor system comprises at least one ultrasonic transducer (see col.9 lines 1-20).

Regarding claims 53-58, Shennib teaches that the hand held device of further

Art Unit: 2643

comprising means to select from at least two types of said acoustic test stimuli including speech, noise and tone types (see col.7line 57-col.8 line 10); and the hand held device of further comprising means to select said acoustic test stimuli in at least two frequency rang (see col.10 line 55-col.11 line 25); and the hand held device of further comprising at least one switch for selection of said acoustic test stimuli (see col.6 line 60-col.7 line 30); and the hand held device of further comprising interface means for connecting a remote instrument for remotely operating said hand held device (see fig.4, 126,124); and the hand held device of remote instrument comprises a computer (see col.4 line 5-15); and the hand held device of said interface means comprise the Internet (see fig.4, 126, modem can connect to the internet).

Regarding claims 59-65, 68, Sheenib teaches that the hand held device of interface means comprise an electrical cable (see col.4 lines 5-15); and interface means comprises a wireless link including any of infrared, radio frequency, electromagnetic, sound, or ultrasound (see col.9 lines 1-27); and further comprising response registration means for registering test responses by said test subject and relaying said test responses to said remote instrument (see col.10 line 55-col.11 line 20); and the hand device wherein said response registration means comprise at least one key (col.10 line 55, col.11 line 25, 18a); and the hand held device of further comprising visual status display means, including an liquid crystal display (LCD) and light emitting diode (LED) (see col.5 lines 5-62); and the hand held device of further comprising a controller (32, microtroller); and the hand held device of further comprising memory for storage of data representative of acoustic test stimuli (see col. 6 line 60-col.7 line 28); and the hand

Art Unit: 2643

held device of further comprising wireless remote control means for controlling or adjusting at least one parameter of said hearing aid worn by said test subject (see col.9 line 60-col.10 line 37).

6. Claims 70-72,75-78,81-82, are rejected under 35 U.S.C. 102(b) as being anticipated by Anderson (US PAT. 5,721,783).

Regarding claim 70, Anderson teaches that a system for performing hearing evaluation of a test subject comprising:

a) a hand held device containing an audio transducer (see fig.2, spkr) within, said hand held device (see fig.2, 23) being positioned within the direct sound field range of said audio transducer and positioned in a contactless manner with respect to a test ear of said test subject (22),

b) an auxiliary (22) instrument operably connected to said hand held device (23) for remotely controlling the operation of said hand held device, and

c) means for selecting the delivery of acoustic test stimuli through said audio transducer at two or more intensity levels and at two or more frequency ranges (see col.27 lines 2-25).

Regarding claims 71,72, 75, Anderson teaches that the system of the hand held device (23) is independently operable as a hearing evaluator when detached from said auxiliary instrument; and the hand held device further comprises a contactless position sensor(22) system for measuring the position of said hand held device (23) with



Art Unit: 2643

respect to the head or part thereof of interest of said test subject; and the system of including means for performing said hearing evaluation in an aided condition in which said test subject is wearing a hearing aid (see fig.1).

Regarding claims 76-78, Anderson discloses that the system of including means for performing said hearing evaluation in said aided condition to verify functionality of said hearing aid; and hearing evaluation in said aided condition to adjust at least one parameter of said hearing aid; and programming the function or operation of said handheld device (23) with said auxiliary instrument (22) according to the needs of said test subject (see col.7 line 2-20).

Regarding claims 79-80, Anderson teaches that the system of handheld device further comprises response registration means for registering test responses by said test subject and relaying said test responses to said auxiliary instrument (see col.20 line 48-col.21 line30; and response registration means comprise at least one key (see fig.7).

Regarding claims 81-82, Anderson teaches that the system of auxiliary instrument is a computer (see col.26 line20-55); and the system of including means for remotely connecting said auxiliary instrument to said handheld device through the Internet (from cellular telephone)

7. Claims 98-101 are rejected under 35 U.S.C. 102(b) as being anticipated by Downs (US PAT. 5,428,998).

Regarding claim 98, Downs teaches that a method of hearing evaluation for an individual holding a hand held device containing an audio transducer for delivering acoustic test stimuli in a contactless manner and within the direct sound field range of said audio transducer with respect to a test ear of said individual, said method comprising the steps of

a) delivering at least two levels of said acoustic test stimuli to said test ear of the individual (see col.3 line 30-col.4 line 16), and

b) delivering said acoustic test stimuli in at least two frequency ranges (see col.3 line 30-col.4 line 16).

Regarding claims 99-101, Downs teaches that the method of including orienting said audio transducer at approximately 0 ° degree incidence and within a distance range of 30-60cm with respect to the forehead of said individual (see col.3 line 30-col.4 line 16); and the method of including orienting said audio transducer at approximately 0 ° - 45 ° degree incidence range and within a distance range of 2-10 cm with respect to said test ear, for monaural hearing evaluations (see abstract); and the method of including performing said hearing evaluation in an unaided condition in which said individual is not wearing a hearing aid (see col.6 line 47— col.7 line 30).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2643

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brillhart (US PAT. 5,303,306) in view of Luethi (US PAT. 4,918,737).

Regarding claim 4 Brillhart fails to teach that the device is configured as a wrist watch.

However, Luethi teaches that the device is configured as a wrist watch (see fig.1).

Therefore, it would have obvious to one of ordinary skill in the art the time the invention was made, to combine the teachings of Brillhart and Luethi to achieve hearing aid with wireless remote control for friendly using.

10. Claims 6, 10-13, are rejected under 35 U.S.C. 103(a) as being unpatentable over Brillhart (US PAT. 5,303,306) in view of Downs (US PAT. 5,428,998).

Regarding claim 6, Brillhart fails to teach that the device of including means for performing said hearing evaluation in an unaided condition in which said test subject is not wearing a hearing aid.

However Downs teaches that the device of including means for performing said hearing evaluation in an unaided condition in which said test subject is not wearing a hearing aid (see fig.2).

Therefore, it would have obvious to one of ordinary skill in the art the time the invention was made, would have been motivated to combine the teachings of Brillhart and Downs to achieve hearing aid with wireless remote control for cheaper.

Regarding claims 10-13, Downs teaches that the device of further comprising means for delivering at least one of said acoustic test stimuli within the soft level listening range of normal hearing individuals, wherein said soft level listening range is between 20 and 40 dB HL; and the device of further comprising means for delivering at least one of said acoustic test stimuli within the comfortable level listening range of normal hearing individuals, wherein said comfortable level listening range is between 45 and 65 dB HL (see col.2 line 50-col.3 line2).

11. Claims 40,44-47, are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheenib (US PAT. 5,197,332) in view of Downs (US PAT. 5,428,9987).

As to claims 40, 44-47, Note rejection of claims 6, 10-13 for discussion.

12. Claim 74 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US PAT. 5,721,783) in view of Downs (US PAT. 5,428,9987).

As to claim 74 Note rejection of claims 6, for discussion.

13. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brillhart (US PAT. 5,303,306) in view of King (US PAT. 4,615,007).

Regarding claim 15, Brillhart fails to teach that the device, wherein said

contactless position sensor system comprises means for automatically computing the distance between said device and the head or part thereof of interest of said test subject.

However, King teaches that the device, wherein said contactless position sensor (see fig.1 34) system comprises means for automatically computing the distance between said device and the head or part thereof of interest of said test subject (see col.10 line 50-col.11 line51).

Therefore, it would have obvious to one of ordinary skill in the art the time the invention was made, to combine the teachings of Brillhart and King to achieve hearing aid with wireless remote control for more accurate in testing.

14. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brillhart (US PAT. 5,303,306) in view of Eckstein (US PAT. 4,964,304).

Regarding claim 16, Brillhart fails to teach that contactless position sensor system comprises means for automatically determining if the device is within an operable range and orientation with respect to the head or part thereof of interest of said test subject.

However, Eckstein teaches that contactless position sensor system comprises means for automatically determining if the device is within an operable range and orientation with respect to the head or part thereof of interest of said test subject (see abstract).

Therefore, it would have obvious to one of ordinary skill in the art the time the invention was made, to combine the teachings of Brillhart and Eckstein to achieve hearing aid with wireless remote control for testing more convenient.

15. Claims 17,19,33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brillhart (US PAT. 5,303,306) in view of Anderson (US PAT. 5,721,783).

Regarding claim 17, Brillhart fails to teach that contactless position sensor system comprises a transmitting transducer and a receiving transducer.

However, Anderson discloses that contactless position sensor system comprises a transmitting transducer and a receiving transducer( see fig.2,(27,24))

Therefore, it would have obvious to one of ordinary skill in the art the time the invention was made, would have been motivated to combine the teachings of Brillhart and Anderson to achieve hearing aid with wireless remote control for cheaper.

Regarding claim 19, Anderson teaches that the device of transmitting transducer (27) and receiving transducer (24) are combined in a unitary bidirectional transducer (wireless microphone).

Regarding claim 33-34, Anderson teaches that the device of further comprising a microphone; and microphone provides means for measuring ambient background noise, for self testing, or for self calibration of said device (see col.7 lines 1-20).

16. Claims 23-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brillhart (US PAT. 5,303,306) in view of Shennib (US PAT. 5,197,332).

Regarding claims 23,30, Brillhart fails to teaches that the device of further comprising interface means for connecting a remote instrument to said device for remotely operating said device; and the device of further comprising visual status display means, including liquid crystal display (LCD) and light emitting diode (LED).

However, Shennib teaches that the device of further comprising interface means for connecting a remote instrument to said device for remotely operating said device (see fig.4,124); and the device of further comprising visual status display means, including liquid crystal display (LCD) and light emitting diode (LED) ( see col.5 lines 3-36).

Therefore, it would have obvious to one of ordinary skill in the art the time the invention was made, would have been motivated to combine the teachings of Brillhart and Shennib to achieve hearing aid with wireless remote control for more helpful system.

Regarding claims 24-29, Shennib teaches that device of remote instrument comprises a computer (see col.7 line 29-56); and interface means comprise an electrical cable (see col.4 lines 5-15); and interface means comprise the Internet (see fig.4,126, modem connect to the internet); and the interface means comprise a wireless ink including any of infrared, radio frequent', electromagnetic, sound, or ultrasound (see col5 lines 19-36); and the device of further comprising response registration means for registering test responses by said test subject and relaying said

Art Unit: 2643

test responses to said remote instrument; and the device of response registration means comprise at least one key (see col.5 line 19-col.6 line 10).

17. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brillhart (US PAT. 5,303,306) in view of Shennib (US PAT. 5,425,104).

Regarding claim 36, Brillhart fails to teaches that the device of further wireless remote control means comprise a magnet.

However, Shennib teaches that the device of wireless remote control means comprise a magnet (see abstract).

Therefore, it would have obvious to one of ordinary skill in the art the time the invention was made, would have been motivated to combine the teachings of Brillhart and Shennib to achieve hearing aid with wireless remote control for improving transmitting the voice sound signals to inner ear.

18. Claim 69 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sheenib (US PAT. 5,197,332) in view of Shennib (US PAT. 5,425,104).

As to claim 69, Note rejection of claim 36 for discussion.

19. Claims 49,51, 66-67, are rejected under 35 U.S.C. 103(a) as being unpatentable over Sheenib (US PAT. 5,303,306) in view of Anderson (US PAT. 5,721,783).

As to claims 66-67, Note rejection of claims 33-34 for discussion.



Regarding claim 49, Sheenib fail to teaches that the hand held device of further including means for automatically adjusting the characteristics of said acoustic test stimuli, including onset, amplitude and frequency, in response to position measurements performed by said contactless position sensor system.

However, Anderson teaches that the hand held device of further including means for automatically adjusting the characteristics of said acoustic test stimuli, including onset, amplitude and frequency, in response to position measurements performed by said contactless position sensor system (see fig.2 (27,24) and col.6 line 47-col.7 line 20).

Therefore, it would have obvious to one of ordinary skill in the art the time the invention was made to utilize the teachings of Anderson in order to provide the hearing aid with wireless remote control for more convenient in testing.

Regarding claim 51, Anderson teaches that the hand-held device of conntactless position sensor (see fig.2, (27,24) system comprises means for automatically determining if the device is within an operable distance and orientation with respect to said head or part thereof of interest of said test subject (see col.21 line 30- col.22 line 18).

20. Claim 52 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sheenib (US PAT. 5,303,306) in view of King (US PAT. 4,615,007) and Anderson (US PAT. 5,721,783).

Regarding claim 52, Sheenib fail to teach that the hand held device of contactless position sensor system comprises means for computing the distance between the device and said head or part thereof of interest of said test subject based on the latency period between a transmitted signal emitted by an ultrasonic transmitting transducer and reflected signal received by an ultrasonic receiving transducer.

However, King teaches that the hand held device of contactless position sensor system comprises means for computing the distance between the device and said head or part (see col.21 line 30-col.22 line 18).

Therefore, it would have obvious to one of ordinary skill in the art the time the invention was made, to combine the teachings of Sheenib and King to achieve hearing aid with wireless remote control for more accurate in the system.

Sheenib in view of King do not teach that head or part of interest of said test subject based on the latency period between a transmitted signal emitted by an ultrasonic transmitting transducer and reflected signal received by an ultrasonic receiving transducer.

However, Anderson teaches that that head or part of interest of said test subject based on the latency period between a transmitted signal (see fig.1,-17)-emitted by an ultrasonic transmitting transducer (16) and reflected signal (see fig.1, 17) received by an ultrasonic receiving transducer (16) (see col.3 line 50-col.4 line 15).

Therefore, it would have obvious to one of ordinary skill in the art the time the invention was made to utilize the teachings of Anderson in order to provide the hearing aid with wireless remote control for more convenient in the system.

21. Claims 73,83-91, 93-97, are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US PAT. 5,721,783) in view of Eckstein (US PAT. 4,964,304).

Regarding claim 73, Anderson fails to teach that the system of including means for automatically adjusting the characteristics of said acoustic test stimuli, including onset, amplitude and frequency, in response to position measurements performed by said position sensor system.

However, Eckstein teaches that the system of including means for automatically adjusting the characteristics of said acoustic test stimuli, including onset, amplitude and frequency, in response to position measurements performed by said position sensor system (see abstract).

Therefore, it would have obvious to one of ordinary skill in the art the time the invention was made to utilize the teachings of Eckstein in order to provide the hearing aid with wireless remote control for more convenient in testing.

Regarding claim 83 Eckstein teaches that the system of auxiliary instrument is an audiometer (see fig.1, 18).

Regarding claim 84, Anderson teaches that method of evaluating a test subject's hearing with a device containing a contactless position sensor system and an audio transducer, said method comprising the steps of :

Art Unit: 2643

a) measuring the position of said subject's head or part thereof of interest relative to said device with said position sensor system (see fig.2, (27,24) when said device is oriented to face said subject's head or part thereof of interest; and

b) automatically determining any of the characteristics of acoustic test stimuli from said audio transducer, including onset, amplitude and frequency thereof, according to the measurement performed by said position sensor system; and

c) delivering said acoustic test stimuli to said test subject while said device is oriented toward said subject's head or part thereof of interest (see col.27 line 3 –col.28 line 30), but Anderson fails to teaches that automatically determining any of the characteristics of acoustic test stimuli from said audio transducer, including onset, amplitude and frequency thereof, according to the measurement performed by said position sensor system.

However, Eckstein teaches that b) automatically determining any of the characteristics of acoustic test stimuli from said audio transducer, including onset, amplitude and frequency thereof, according to the measurement performed by said position sensor system (see abstract).

Therefore, it would have obvious to one of ordinary skill in the art the time the invention was made to utilize the teachings of Eckstein in order to provide the hearing aid with wireless remote control for testing more convenient.

Regarding claim 85-86 Anderson teaches that the method of including the step of orienting said audio transducer at approximately 0 ° degree incidence and within a distance range of 30-60cm with respect to the forehead of said test subject, while

Art Unit: 2643

performing said step of delivering acoustic test stimuli; and the method of including the step of orienting said audio transducer at approximately 0 ° - 45 ° degree inside R6e range and within a distance range of 2-10 cm with respect to a test ear of said test subject while performing said step of delivering acoustic test stimuli, for monaural hearing evaluations ( by using only part of RPU in fig.2, see col.27 line 3-col28 line60).

Regarding claims 87,88, Anderson teaches that the method of including delivering said acoustic test stimuli in an unaided condition in which said test subject is not wearing a hearing aid ( The test is using only part of RPU in fig.2, 23); and the method including delivering said acoustic test stimuli in an aided condition in which said test subject is wearing a hearing aid (the test is using with earpiece, see fig.2).

Regarding claim 89-91, Anderson teaches that the method of including delivering said acoustic test stimuli in said aided condition to verify the functionality of said hearing aid (see col.27 line 3-col.28 line 60); and to adjust at least one parameter of said hearing aid (see col.23 line 5-col.24 line 15); and the method of device is hand held by said test subject during said hearing evaluation (see fig.2).

Regarding claims 93-96 Anderson teaches that the method of device is configured to be held by a test operator assisting said subject during said hearing evaluation (see col.27 line3-col.28 line 50); and the method of including connecting a remote instrument to said device via an interface to remotely control said device during said hearing evaluation (see col.25 line2 –col.24 line 60) and the method of including connecting said remote instrument to said device via the Internet (by using cellular telephone connect to

Art Unit: 2643

the internet ,see fig.2); and the method of remote instrument is a computer (see col.26 lines 23-55).

Regarding claim 97, Eckstein teaches that the method of remote instrument is an audiometer (see fig.1, 18).

22. Claims 102--109 rejected under 35 U.S.C. 103(a) as being unpatentable over Downs (US PAT. 5,428,998) in view of Shennib (US PAT. 5,197,332).

Regarding claim 102, Downs fails to teaches that the method of performing said hearing evaluation in an aided condition in which said individual is wearing a hearing aid.

However, Shennib teaches that the method of performing said hearing evaluation in an aided condition in which said individual is wearing a hearing aid (see col.7 line 55-col.8 line 45).

Therefore, it would have obvious to one of ordinary skill in the art the time the invention was made, to combine the teachings of Downs and Shennib to achieve hearing aid with wireless remote control for more accurate in testing.

Regarding claim 103-106, Shennib teaches that the method of including performing said hearing evaluation in said aided condition to verify the functionality of said hearing aid (see col.10 line 37-col.11 line 25); and the method of including performing said hearing evaluation in said aided condition to adjust at least one parameter of said hearing aid (see col.9 line 45-col.10 line 37); and the method of a test

Art Unit: 2643

operator holds said device while assisting said individual in said hearing evaluation (see col.7 line 56-col.8 line 12); and the method of including connecting a remote instrument to said device via an interface to remotely control said device during said hearing evaluation ( see col. 7 line 29-55).

Regarding claims 107-109, Shennib teaches that the method of including connecting said remote instrument to said device via the Internet (by using modem connect to internet, see fig.4, 126); and the method of wherein said remote instrument is a computer (see col.7 lines 29-55); and the method of remote instrument is an audiometer (see col.5 line 60-col.6 line 10).

23. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over as Brillhart (US PAT. 5,303,306) in view of Anderson (US PAT. 5,721,783) applied to claim17 above, and further in view of King (US PAT. 4,615,007).

Regarding claim 18, Anderson teaches that the device of contactless position sensor system thereof of interest of said test subject based on the latency period between a transmitted signal (see fig.2, f2) emitted by said transmitting transducer (27) and reflected signal (f1) received by said receiving transducer (24), but Anderson fails to teaches that the contactless position sensor system comprises means for computing the distance between the device and the head or said part.

However, Kinng teaches that the contactless position sensor system comprises means for computing the distance between the device and the head or said part (see col.10 line 50-col.11 line 15).

Therefore, it would have obvious to one of ordinary skill in the art the time the invention was made, to combine the teachings of Brillhart; Anderson and King to achieve hearing aid with wireless remote control for more accurate in testing.

24. Claim 92 is rejected under 35 U.S.C. 103(a) as being unpatentable over as Anderson (US PAT. 5,721,783) in view of Eckstein (US PAT. 4,964,304) applied to claim 84 above, and further in view of Luethi (US PAT. 4,918,737).

Regarding claim 92, Anderson and Eckstein fails to teach that the device is configured as a wrist watch.

However, Luethi teaches that the device is configured as a wrist watch (see fig.1).

Therefore, it would have obvious to one of ordinary skill in the art the time the invention was made, to combine the teachings of Anderson; Eckstein Brillhart and Luethi to achieve hearing aid with wireless remote control for friendly using.

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### **Conclusion**

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Steeger (US PAT 5,012,520) and (US PAT 5,210,803) are recited to show other related personal hearing evaluator.

26. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231



Application/Control Number: 09/400,151  
Art Unit: 2643

Page 24

or faxed to: (703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao, Lun-See whose telephone number is (703) 305-2259. The examiner can normally be reached on Monday-Friday from 8:00 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (703) 305-4708.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (703) 306-0377.

Lao, Lun-See  
Patent Examiner  
US Patent and Trademark Office  
Crystal Park 2  
(703) 305-2259

  
CURTIS KUNTZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600